```
FILE 'HOME' ENTERED AT 12:21:37 ON 21 MAR 2002

=> FIL BIOSIS,CABA,CAPLUS,EMBASE,LIFESCI,MEDLINE,SCISEARCH,USPATFULL,JAPIO
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.15       0.15

FILE 'BIOSIS' ENTERED AT 12:21:46 ON 21 MAR 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'CABA' ENTERED AT 12:21:46 ON 21 MAR 2002
COPYRIGHT (C) 2002 CAB INTERNATIONAL (CABI)

FILE 'CAPLUS' ENTERED AT 12:21:46 ON 21 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'EMBASE' ENTERED AT 12:21:46 ON 21 MAR 2002
COPYRIGHT (C) 2002 Elsevier Science B.V.  All rights reserved.

FILE 'LIFESCI' ENTERED AT 12:21:46 ON 21 MAR 2002
COPYRIGHT (C) 2002 Cambridge Scientific Abstracts (CSA)


FILE 'MEDLINE' ENTERED AT 12:21:46 ON 21 MAR 2002

FILE 'SCISEARCH' ENTERED AT 12:21:46 ON 21 MAR 2002
COPYRIGHT (C) 2002 Institute for Scientific Information (ISI) (R)

FILE 'USPATFULL' ENTERED AT 12:21:46 ON 21 MAR 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'JAPIO' ENTERED AT 12:21:46 ON 21 MAR 2002
COPYRIGHT (C) 2002 Japanese Patent Office (JPO)

=> s method (l) detection(l) culture or cultivation
   5 FILES SEARCHED...
L1      287704 METHOD (L) DETECTION(L) CULTURE OR CULTIVATION

=> s l1 and salmonella
L2        6050 L1 AND SALMONELLA

=> s l2 and hour or hours
L3     1174843 L2 AND HOUR OR HOURS

=> s l3 and antigen
L4       50845 L3 AND ANTIGEN

=> s l4 and fimbriae or fimbrial
L5        8840 L4 AND FIMBRIAE OR FIMBRIAL

=> s l5 and rapid
L6         301 L5 AND RAPID

=> s l6 and hakalehto
L7           0 L6 AND HAKALEHTO

=> s l6 and inoculation
L8          52 L6 AND INOCULATION

=> rem dup l8
DUP IS NOT VALID HERE
The DELETE command is used to remove various items stored by the
system.

To delete a saved query, saved answer set, saved L-number list, SDI
```

updated search.

request, batch request, mailing list, or user-defined cluster, format, or search field, enter the name. The name may include ? for left, right, or simultaneous left and right truncation.

Examples:

```
DELETE BIO?/Q           - delete query names starting with BIO
DELETE ?DRUG/A          - delete answer set names ending with DRUG
DELETE ?ELEC?/L         - delete L-number lists containing ELEC
DELETE ANTICOAG/S       - delete SDI request
DELETE ENZYME/B         - delete batch request
DELETE .MYCLUSTER       - delete user-defined cluster
DELETE .MYFORMAT        - delete user-defined display format
DELETE .MYFIELD         - delete user-defined search field
DELETE NAMELIST MYLIST - delete mailing list
```

To delete an ordered document or an offline print, enter its number.

Examples:

```
DELETE P123001C         - delete print request
DELETE D134002C         - delete document order request
```

To delete an individual L-number or range of L-numbers, enter the L-number or L-number range. You may also enter DELETE LAST followed by a number, n, to delete the last n L-numbers. RENUMBER or NORENUMBER may also be explicitly specified to override the value of SET RENUMBER.

Examples:

```
DELETE L21              - delete a single L-number
DELETE L3-L6            - delete a range of L-numbers
DELETE LAST 4           - delete the last 4 L-numbers
DELETE L33-             - delete L33 and any higher L-number
DELETE -L55             - delete L55 and any lower L-number
DELETE L2-L6 RENUMBER - delete a range of L-numbers and
                          renumber remaining L-numbers
DELETE RENUMBER         - renumber L-numbers after deletion of
                          intermediate L-numbers
```

Entire sets of saved items, SDI requests, batch requests, user-defined items, or E-numbers can be deleted.

Examples:

```
DELETE SAVED/Q - delete all saved queries
DELETE SAVED/A - delete all saved answer sets
DELETE SAVED/L - delete all saved L-number lists
DELETE SAVED   - delete all saved queries, answer sets,
                 and L-number lists
DELETE SAVED/S - delete all SDI requests
DELETE SAVED/B - delete all batch requests
DELETE CLUSTER - delete all user-defined clusters
DELETE FORMAT  - delete all user-defined display formats
DELETE FIELD   - delete all user-defined search fields
DELETE SELECT  - delete all E-numbers
DELETE HISTORY - delete all L-numbers and restart the
                 session at L1
```

To delete an entire multifile SDI request, enter DELETE and the name of the request. To delete a component from the multifile SDI, enter DELETE and the name of the component.

=> end

```
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:n

=> s l6 and inoculation
L9          52 L6 AND INOCULATION

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10         52 DUP REM L9 (0 DUPLICATES REMOVED)

=> d l10 ibib 1-52

L10  ANSWER 1 OF 52  USPATFULL
ACCESSION NUMBER:        2002:55159  USPATFULL
TITLE:                   STREPTOCOCCUS PNEUMONIAE POLYNUCLEOTIDES AND SEQUENCES
INVENTOR(S):             KUNSCH, CHARLES A., GAITHERSBURG, MD, UNITED STATES
                         CHOI, GIL H., ROCKVILLE, MD, UNITED STATES
                         DILLON, PATRICK J., CARLSBAD, CA, UNITED STATES
                         ROSEN, CRAIG A., LAYTONSVILLE, MD, UNITED STATES
                         BARASH, STEVEN C., ROCKVILLE, MD, UNITED STATES
                         FANNON, MICHAEL R., SILVER SPRING, MD, UNITED STATES
                         DOUGHERTY, BRIAN A., MT. AIRY, MD, UNITED STATES

                              NUMBER        KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 2002032323      A1   20020314
APPLICATION INFO.:       US 1997-961527     A1   19971030  (8)

                              NUMBER         DATE
                         ------------------ --------
PRIORITY INFORMATION:    US 1996-29960P     19961031 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,
                         ROCKVILLE, MD, 20850
NUMBER OF CLAIMS:        20
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      2 Drawing Page(s)
LINE COUNT:              7752

L10  ANSWER 2 OF 52  USPATFULL
ACCESSION NUMBER:        2002:16560  USPATFULL
TITLE:                   Methods and compositions for inhibiting adhesion by
                         microorganisms
INVENTOR(S):             Doyle, Ron J., Louisville, KY, UNITED STATES
                         Cowan, M. M., Cincinnati, OH, UNITED STATES

                              NUMBER        KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 2002009436      A1   20020124
APPLICATION INFO.:       US 2000-750857     A1   20001229  (9)

                              NUMBER         DATE
                         ------------------ --------
PRIORITY INFORMATION:    US 1999-173821P    19991230 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN,
                         55402-0903
NUMBER OF CLAIMS:        50
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      13 Drawing Page(s)
LINE COUNT:              2655
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10  ANSWER 3 OF 52  USPATFULL
ACCESSION NUMBER:        2002:50802  USPATFULL
```

TITLE: Computer readable genomic sequence of Haemophilus influenzae Rd, fragments thereof, and uses thereof
INVENTOR(S): Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6355450	B1	20020312
APPLICATION INFO.:	US 1995-476102		19950607 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Campell, Bruce R.
NUMBER OF CLAIMS: 88
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 47 Drawing Figure(s); 47 Drawing Page(s)
LINE COUNT: 4666
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 4 OF 52 USPATFULL
ACCESSION NUMBER: 2001:176230 USPATFULL
TITLE: Bovine footrot treatment and prevention
INVENTOR(S): Morck, Douglas W., Airdrie, Canada
Olson, Merle E., Calgary, Canada

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001028885	A1	20011011
APPLICATION INFO.:	US 2001-834904	A1	20010416 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1998-148778, filed on 4 Sep 1998, GRANTED, Pat. No. US 6241992

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-58167P	19970908 (60)
	US 1998-85540P	19980515 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: T. Gene Dillahunty, Esq., BURNS, DOANE, SWECKER & MATHIS, L.L.P., P.O. Box 1404, Alexandria, VA, 22313-1404
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 1773
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 5 OF 52 USPATFULL
ACCESSION NUMBER: 2001:202784 USPATFULL
TITLE: Nucleotide sequence of Escherichia coli pathogenicity islands
INVENTOR(S): Dillon, Patrick J., Gaithersburg, MD, United States
Choi, Gil H., Rockville, MD, United States
Welch, Rodney A., Madison, WI, United States
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
Wisconsin Alumni Research Foundation, Madison, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION: US 6316609 B1 20011113
APPLICATION INFO.: US 1997-976259 19971121 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-61953P	19971014 (60)
	US 1996-31626P	19961122 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Clark, Deborah J. R.
ASSISTANT EXAMINER: Sorbello, Eleanor
LEGAL REPRESENTATIVE: Human Genome Sciences, Inc.
NUMBER OF CLAIMS: 113
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 3533
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 6 OF 52 USPATFULL
ACCESSION NUMBER: 2001:196810 USPATFULL
TITLE: DbpA compositions and methods of use
INVENTOR(S): Guo, Betty P., Boston, MA, United States
Hook, Magnus, Houston, TX, United States
PATENT ASSIGNEE(S): The Texas A & M University System, College Station, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6312907	B1	20011106
APPLICATION INFO.:	US 2000-489352		20000121 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 117257, now patented, Pat. No. US 6214355 Continuation-in-part of Ser. No. US 945476 Continuation-in-part of Ser. No. US 1996-589711, filed on 22 Jan 1996, now patented, Pat. No. US 5853987 Continuation-in-part of Ser. No. US 1995-427023, filed on 24 Apr 1995, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Zitomer, Stephanie W.
LEGAL REPRESENTATIVE: Williams, Morgan and Amerson
NUMBER OF CLAIMS: 35
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 34 Drawing Figure(s); 31 Drawing Page(s)
LINE COUNT: 5376
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 7 OF 52 USPATFULL
ACCESSION NUMBER: 2001:191256 USPATFULL
TITLE: USPA1 and USPA2 **antigens** of Moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Aebi, Christoph, Gasel, Switzerland
Cope, Leslie D., Mesquite, TX, United States
Maciver, Isobel, Cottage Grove, WI, United States
Fiske, Michael J., Rochester, NY, United States
Fredenburg, Ross A., Rochester, NY, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas, Austin, TX, United States (U.S. corporation)
American Cyanamid, Madison, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6310190	B1	20011030
APPLICATION INFO.:	US 1999-336447		19990621 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 1997-US23930, filed on 19 Dec 1997

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-33598P	19961220 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Jones, W. Gary
ASSISTANT EXAMINER: Soudaya, Jehanne
LEGAL REPRESENTATIVE: Fulbright & Jaworski
NUMBER OF CLAIMS: 2
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 28 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 4794
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 8 OF 52 USPATFULL
ACCESSION NUMBER: 2001:190752 USPATFULL
TITLE: Therapeutic treatment and prevention of infections with a bioactive materials encapsulated within a biodegradable-biocompatible polymeric matrix
INVENTOR(S): Setterstrom, Jean A., Alpharetta, GA, United States
Van Hamont, John E., Fort Meade, MD, United States
Reid, Robert H., McComas, CT, United States
Jacob, Elliot, Silver Spring, MD, United States
Jeyanthi, Ramasubbu, Columbia, MD, United States
Boedeker, Edgar C., Chevy Chase, MD, United States
McQueen, Charles E., Olney, MD, United States
Jarboe, Daniel L., Silver Spring, MD, United States
Cassels, Frederick, Ellicott City, MD, United States
Brown, William, Denver, CO, United States
Thies, Curt, Ballwin, MO, United States
Tice, Thomas R., Birmington, AL, United States
Roberts, F. Donald, Dover, MA, United States
Friden, Phil, Beford, MA, United States(4)
PATENT ASSIGNEE(S): The United States of America as represented by the Secretary of the Army, Washington, DC, United States (U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6309669	B1	20011030
APPLICATION INFO.:	US 1997-789734		19970127 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-590973, filed on 24 Jan 1996, now abandoned Continuation-in-part of Ser. No. US 1995-446149, filed on 22 May 1995, now abandoned Continuation of Ser. No. US 1984-590308, filed on 6 Mar 1984, now abandoned And Ser. No. US 789734 Continuation-in-part of Ser. No. US 1995-446148, filed on 22 May 1995 Continuation-in-part of Ser. No. US 1992-867301, filed on 10 Apr 1992, now patented, Pat. No. US 5417986, issued on 23 May 1995 Continuation-in-part of Ser. No. US 1984-590308, filed on 16 Mar 1984, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Harrison, Robert H.
LEGAL REPRESENTATIVE: Nash, Caroline, Arwine, Elizabeth
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 87 Drawing Figure(s); 85 Drawing Page(s)
LINE COUNT: 6182
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 9 OF 52 USPATFULL
ACCESSION NUMBER: 2001:185267 USPATFULL
TITLE: Peptide antiestrogen compositions and methods for treating breast cancer

INVENTOR(S): Pietras, Richard J., Sherman Oaks, CA, United States
PATENT ASSIGNEE(S): University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6306832	B1	20011023
APPLICATION INFO.:	US 1999-419826		19991014 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 1998-US7711, filed on 14 Apr 1998

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-43545P	19970414 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Fredman, Jeffrey
LEGAL REPRESENTATIVE: Howrey Simon Arnold & White, LLP
NUMBER OF CLAIMS: 40
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 5797
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 10 OF 52 USPATFULL
ACCESSION NUMBER: 2001:178635 USPATFULL
TITLE: Anti-microbial-adhesion fraction derived from vaccinium
INVENTOR(S): Ofek, Itzhak, Givataun, Israel
Weiss, Ervin, Herzeliya, Israel
Kashman, Yoel, Tel Aviv, Israel
Goldhar, Janina, Tel Aviv, Israel
Sharon, Nathan, Tel Aviv, Israel
PATENT ASSIGNEE(S): RAMOT-University Authority for Applied Research and Industrial Development Ltd., Ramat-Aviv, Tel Aviv, Israel (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6303125	B1	20011016
APPLICATION INFO.:	US 1998-159626		19980924 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-772021, filed on 19 Dec 1996, now patented, Pat. No. US 5840322
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Celsa, Bennett
LEGAL REPRESENTATIVE: Kohn & Associates
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 1574
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 11 OF 52 USPATFULL
ACCESSION NUMBER: 2001:153105 USPATFULL
TITLE: Collagen binding protein compositions and methods of use
INVENTOR(S): Hook, Magnus, Houston, TX, United States
Patti, Joseph M., Missouri City, TX, United States
House-Pompeo, Karen, Valdosta, GA, United States
Sthanam, Narayana, Vestavia, AL, United States
Symersky, Jindrich, Birmingham, AL, United States
PATENT ASSIGNEE(S): Texas A&M University Systems, College Station, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6288214	B1	20010911

APPLICATION INFO.: US 1997-856253 19970514 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-17678P	19960516 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Howrey Simon Arnold & White, LLP
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 4408
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 12 OF 52 USPATFULL
ACCESSION NUMBER: 2001:93284 USPATFULL
TITLE: Decorin binding protein compositions and methods of use
INVENTOR(S): Guo, Betty P., Boston, MA, United States
Hook, Magnus, Houston, TX, United States
PATENT ASSIGNEE(S): The Texas A & M University System, College Station, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6248517	B1	20010619	
	WO 9634106		19961031	
APPLICATION INFO.:	US 1997-945476		19971224	(8)
	WO 1996-US5886		19960424	
			19971224	PCT 371 date
			19971224	PCT 102(e) date

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-589711, filed on 22 Jan 1996, now patented, Pat. No. US 5853987
Continuation-in-part of Ser. No. US 1995-427023, filed on 24 Apr 1995, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Zitomer, Stephanie W..
LEGAL REPRESENTATIVE: Williams, Morgan and Amerson
NUMBER OF CLAIMS: 57
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 42 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT: 4945
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 13 OF 52 USPATFULL
ACCESSION NUMBER: 2001:82318 USPATFULL
TITLE: Bovine footrot treatment and prevention
INVENTOR(S): Morck, Douglas W., Airdrie, Canada
Olson, Merle E., Calgary, Canada
PATENT ASSIGNEE(S): University Technologies International, Inc., Alberta, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6241992	B1	20010605	
APPLICATION INFO.:	US 1998-148778		19980904	(9)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 21 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 1843
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 14 OF 52 USPATFULL

ACCESSION NUMBER:	2001:67646 USPATFULL
TITLE:	Decorin binding protein compositions
INVENTOR(S):	Guo, Betty, Houston, TX, United States Hook, Magnus, Houston, TX, United States
PATENT ASSIGNEE(S):	The Texas A & M Unversity System, College Station, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6228835	B1	20010508
APPLICATION INFO.:	US 1998-221938		19981228 (9)

RELATED APPLN. INFO.:	Division of Ser. No. US 1996-589711, filed on 22 Jan 1996, now patented, Pat. No. US 5853987, issued on 29 Dec 1998 Continuation-in-part of Ser. No. US 1995-427023, filed on 24 Apr 1995, now abandoned
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Zitomer, Stephanie W.
LEGAL REPRESENTATIVE:	Williams, Morgan and Amerson
NUMBER OF CLAIMS:	24
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	25 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT:	4504

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 15 OF 52 USPATFULL

ACCESSION NUMBER:	2001:55462 USPATFULL
TITLE:	Streptococcus pneumoniae 37-kDa surface adhesin a protein
INVENTOR(S):	Sampson, Jacquelyn S., College Park, GA, United States Russell, Harold, Atlanta, GA, United States Tharpe, Jean A., Lithonia, GA, United States Ades, Edwin W., Atlanta, GA, United States Carlone, George M., Stone Mountain, GA, United States
PATENT ASSIGNEE(S):	The United States of America as represented by the Department of Health and Human Services, Washington, DC, United States (U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6217884	B1	20010417
APPLICATION INFO.:	US 1998-221753		19981228 (9)

RELATED APPLN. INFO.:	Division of Ser. No. US 1996-715131, filed on 17 Sep 1996, now patented, Pat. No. US 5854416 Continuation-in-part of Ser. No. US 1994-222179, filed on 4 Apr 1994, now abandoned Continuation-in-part of Ser. No. US 1991-791377, filed on 17 Sep 1991, now patented, Pat. No. US 5422427
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Graser, Jennifer
LEGAL REPRESENTATIVE:	Needle & Rosenberg, P.C.
NUMBER OF CLAIMS:	3
EXEMPLARY CLAIM:	1
LINE COUNT:	1833

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 16 OF 52 USPATFULL

ACCESSION NUMBER:	2001:52204 USPATFULL
TITLE:	Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof
INVENTOR(S):	Tucker, Kenneth, Frederick, MD, United States Plosila, Laura, Cary, NC, United States Tillman, Ulrich F., Olney, MD, United States
PATENT ASSIGNEE(S):	Antex Biologics Inc., Gaithersburg, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6214981	B1	20010410	
APPLICATION INFO.:	US 1997-968685		19971112	(8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-642712, filed on 3 May 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Smith, Lynette R. F.
ASSISTANT EXAMINER: Portner, Ginny Allen
LEGAL REPRESENTATIVE: Pennie & Edmonds LLP
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 15 Drawing Figure(s); 13 Drawing Page(s)
LINE COUNT: 2357
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 17 OF 52 USPATFULL
ACCESSION NUMBER: 2001:51579 USPATFULL
TITLE: DbpA compositions
INVENTOR(S): Guo, Betty P., Boston, MA, United States
Hook, Magnus, Houston, TX, United States
PATENT ASSIGNEE(S): Texas A & M University System, College Station, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6214355	B1	20010410	
	WO 9727301		19970731	
APPLICATION INFO.:	US 1998-117257		19980722	(9)
	WO 1996-US17081		19961022	
			19981029	PCT 371 date
			19981029	PCT 102(e) date

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 945476
Continuation-in-part of Ser. No. US 1996-589711, filed on 22 Jan 1996, now patented, Pat. No. US 5853987, issued on 29 Dec 1998 Continuation-in-part of Ser. No. US 1995-427023, filed on 24 Apr 1995, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Zitomer, Stephanie W.
LEGAL REPRESENTATIVE: Williams, Morgan and Amerson
NUMBER OF CLAIMS: 39
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 34 Drawing Figure(s); 31 Drawing Page(s)
LINE COUNT: 5444
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 18 OF 52 USPATFULL
ACCESSION NUMBER: 2001:40211 USPATFULL
TITLE: **Rapid** detection of bacteria liquid cultures
INVENTOR(S): Duffy, Geraldine, Dublin, Ireland
Sheridan, James, Dublin, Ireland
PATENT ASSIGNEE(S): Teagasc, The Agriculture and Food Development Authority, Dublin, Ireland (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6203996	B1	20010320	
	WO 9523872		19950908	
APPLICATION INFO.:	US 1996-702651		19961021	(8)
	WO 1995-IE21		19950228	
			19961021	PCT 371 date
			19961021	PCT 102(e) date

	NUMBER	DATE

PRIORITY INFORMATION:	IE 1994-940182	19940301
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Minnifield, Nita	
LEGAL REPRESENTATIVE:	Morrison & Foerster LLP	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	818	

L10 ANSWER 19 OF 52 USPATFULL

ACCESSION NUMBER:	2001:25424 USPATFULL	
TITLE:	Vectors for the diagnosis and treatment of solid tumors including melanoma	
INVENTOR(S):	Pawelek, John M., Hamden, CT, United States Bermudes, David, Wallingford, CT, United States Low, Kenneth Brooks, Guilford, CT, United States	
PATENT ASSIGNEE(S):	Yale University, New Haven, CT, United States (U.S. corporation)	

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6190657	B1	20010220	
APPLICATION INFO.:	US 1996-658034		19960604	(8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1995-486422, filed on 7 Jun 1995, now abandoned			
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Ketter, James			
ASSISTANT EXAMINER:	Sandals, William			
LEGAL REPRESENTATIVE:	Pennie & Edmonds LLP			
NUMBER OF CLAIMS:	66			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	45 Drawing Figure(s); 38 Drawing Page(s)			
LINE COUNT:	4716			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 20 OF 52 USPATFULL

ACCESSION NUMBER:	2000:98007 USPATFULL	
TITLE:	ClpG subunit of CS31A protein capsule containing heterologous peptides	
INVENTOR(S):	Girardeau, Jean-Pierre, Saint Genes Champanelle, France Martin, Christine, La Roche Blanche, France Mechin, Marie-Claire, Beaumont, France Der Vartanian, Maurice, Saint Genes Champanelle, France Bousquet, Fran.cedilla.ois, Ceyrat, France	
PATENT ASSIGNEE(S):	Institut National de la Recherche Agronomique-INRA, Paris, France (non-U.S. corporation)	

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6096321		20000801	
	WO 9414967		19940707	
APPLICATION INFO.:	US 1996-491954		19960216	(8)
	WO 1993-FR1281		19931221	
			19960216	PCT 371 date
			19960216	PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1992-15464	19921222
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Chin, Christopher L.	
ASSISTANT EXAMINER:	Ryan, V.	
LEGAL REPRESENTATIVE:	Schnader Harrison Segal & Lewis LLP	

NUMBER OF CLAIMS: 29
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 61 Drawing Figure(s); 53 Drawing Page(s)
LINE COUNT: 3468
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 21 OF 52 USPATFULL
ACCESSION NUMBER: 2000:24300 USPATFULL
TITLE: Method for preparing the fimbrin protein of Haemophilus influenzae
INVENTOR(S): Kolattukudy, Pappachan E., Columbus, OH, United States
Bakaletz, Lauren O., Columbus, OH, United States
Sirakova, Tatiana, Columbus, OH, United States
PATENT ASSIGNEE(S): Ohio State Research Foundation, Columbus, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6030626		20000229
APPLICATION INFO.:	US 1995-467722		19950606 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-65442, filed on 18 May 1993, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Hines, Ja-Na A.
LEGAL REPRESENTATIVE: Calfee, Halter & Griswold LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 1332
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 22 OF 52 USPATFULL
ACCESSION NUMBER: 1999:159997 USPATFULL
TITLE: Compounds that bind bacterial pili
INVENTOR(S): Shekhani, Mohammed Saleh, Madison, WI, United States
Firca, Joseph R., Vernon Hills, IL, United States
Anderson, Byron, Morton Grove, IL, United States
PATENT ASSIGNEE(S): Ophidian Pharmaceuticals, Inc., Madison, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5998381		19991207
APPLICATION INFO.:	US 1996-760903		19961206 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Peselev, Elli
LEGAL REPRESENTATIVE: Medlen & Carroll, LLP
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 5
NUMBER OF DRAWINGS: 23 Drawing Figure(s); 25 Drawing Page(s)
LINE COUNT: 6570
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 23 OF 52 USPATFULL
ACCESSION NUMBER: 1999:159497 USPATFULL
TITLE: Method of making non-pyrogenic lipopolysaccharide or A
INVENTOR(S): Powell, Robert J., Baltimore, MD, United States
Hone, David M., Ellicott City, MD, United States
PATENT ASSIGNEE(S): University of Maryland, Baltimore, Baltimore, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5997881		19991207

APPLICATION INFO.: US 1997-802371 19970219 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1995-7478P	19951122 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Spector, Lorraine
ASSISTANT EXAMINER: Lazar-Wesley, Elaine
LEGAL REPRESENTATIVE: Rothwell, Figg, Ernst & Kurz, P.C.
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1
LINE COUNT: 2389
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 24 OF 52 USPATFULL
ACCESSION NUMBER: 1999:113365 USPATFULL
TITLE: Tuberculosis vaccine
INVENTOR(S): Andersen, Peter, Bronshoj, Denmark
Andersen, .ANG.se Bengaard, Bronshoj, Denmark
Haslov, Kaare, Soborg, Denmark
Sorensen, Anne Lund, Bronshoj, Denmark
PATENT ASSIGNEE(S): Statens Seruminstitut, Copenhagen, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5955077		19990921
APPLICATION INFO.:	US 1995-465640		19950605 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-123182, filed on 20 Sep 1993, now abandoned And Ser. No. WO 1994-DK273, filed on 1 Jul 1994
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Caputa, Anthony C.
ASSISTANT EXAMINER: Navarro, Mark
LEGAL REPRESENTATIVE: Cooper, Iver P.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 18 Drawing Figure(s); 18 Drawing Page(s)
LINE COUNT: 2205
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 25 OF 52 USPATFULL
ACCESSION NUMBER: 1999:1236 USPATFULL
TITLE: Pasteurella haemolytica type A-1 bacterin-toxoid vaccine
INVENTOR(S): Brown, Albert L., Lincoln, NE, United States
Dayalu, Krishnaswamy Iyengar, Lincoln, NE, United States
Kaufman, Thomas James, Lincoln, NE, United States
Newsham, Rex Steven, Lincoln, NE, United States
PATENT ASSIGNEE(S): Pfizer Inc., New York, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5855894		19990105
APPLICATION INFO.:	US 1995-550051		19951030 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-307613, filed on 20 Sep 1994, now abandoned which is a continuation-in-part of Ser. No. US 1992-878146, filed on 4 May 1992, now abandoned which is a continuation-in-part of Ser. No. US 1992-869934, filed on 16 Apr 1992, now abandoned which is a continuation-in-part of Ser. No. US 1992-860377, filed on 30 Mar 1992, now abandoned
DOCUMENT TYPE: Utility

FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Richardson, Peter C., Ginsburg, Paul H., Koller, Alan L.
NUMBER OF CLAIMS: 29
EXEMPLARY CLAIM: 1
LINE COUNT: 792
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 26 OF 52 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 1999:562941 SCISEARCH
THE GENUINE ARTICLE: 215ZM
TITLE: Immunohistochemical methods for the identification of enteropathogenic E-coli fimbriae
AUTHOR: Canal A M (Reprint); Cubillos V; Zamora J; Reinhardt G; Paredes E; Ildefonso R; Alberdi A; Macias P
CORPORATE SOURCE: UNIV NACL LITORAL, FAC AGRON & VET ESPERANZA, SANTA FE, ARGENTINA (Reprint); UNIV AUSTRAL CHILE, FAC CIENCIAS VET, INST PATOL ANIM, VALDIVIA, CHILE; UNIV AUSTRAL CHILE, FAC CIENCIAS, INST MICROBIOL, VALDIVIA, CHILE
COUNTRY OF AUTHOR: ARGENTINA; CHILE
SOURCE: ARCHIVOS DE MEDICINA VETERINARIA, (JUN 1999) Vol. 31, No. 1, pp. 45-53.
Publisher: UNIVERSIDAD AUSTRAL CHILE, FACULTAD CIENCIAS VETERINARIAS, CASILLA 567, VALDIVIA, CHILE.
ISSN: 0301-732X.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: AGRI
LANGUAGE: Spanish
REFERENCE COUNT: 24
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L10 ANSWER 27 OF 52 USPATFULL
ACCESSION NUMBER: 1998:162673 USPATFULL
TITLE: Streptococcus pneumoniae 37-KDA surface adhesin a protein and nucleic acids coding therefor
INVENTOR(S): Sampson, Jacquelyn S., College Park, GA, United States
Russell, Harold, Atlanta, GA, United States
Tharpe, Jean A., Lithonia, GA, United States
Ades, Edwin W., Atlanta, GA, United States
Carlone, George M., Stone Mountain, GA, United States
PATENT ASSIGNEE(S): The United States of America as represented by the Department of Health and Human Services, Washington, DC, United States (U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5854416		19981229
APPLICATION INFO.:	US 1996-715131		19960917 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1994-222179, filed on 4 Apr 1994, now abandoned which is a continuation-in-part of Ser. No. US 1991-791377, filed on 17 Sep 1991, now patented, Pat. No. US 5422427
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Shaver, Jennifer
LEGAL REPRESENTATIVE: Fitch, Even, Tabin & Flannery
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
LINE COUNT: 1873
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 28 OF 52 USPATFULL
ACCESSION NUMBER: 1998:162259 USPATFULL
TITLE: Decorin binding protein compositions and methods of use
INVENTOR(S): Guo, Betty, Houston, TX, United States

Hook, Magnus, Houston, TX, United States
PATENT ASSIGNEE(S): The Texas A & M University System, College Station, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5853987		19981229
APPLICATION INFO.:	US 1996-589711		19960122 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-427023, filed on 24 Apr 1995, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Horlick, Kenneth R.
ASSISTANT EXAMINER: Tung, Joyce
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 68
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 25 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT: 4684
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 29 OF 52 USPATFULL
ACCESSION NUMBER: 1998:124397 USPATFULL
TITLE: Simple, **rapid** method for the detection, identification and enumeration of specific viable microorganisms
INVENTOR(S): Pyle, Barry H., Belgrade, MT, United States
McFeters, Gordon A., Bozeman, MT, United States
PATENT ASSIGNEE(S): The Research & Development Institute, Inc., Bozeman, MT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5821066		19981013
APPLICATION INFO.:	US 1997-858707		19970519 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-245262, filed on 18 May 1994, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Duffy, Patricia A.
LEGAL REPRESENTATIVE: McDermott, Will & Emery
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1406
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 30 OF 52 USPATFULL
ACCESSION NUMBER: 1998:88478 USPATFULL
TITLE: Synthetic peptides representing a T-cell epitope as a carrier molecule for conjugate vaccines
INVENTOR(S): Bixler, Garvin, Fairport, NY, United States
Pillai, Subramonia, Rochester, NY, United States
Insel, Richard, Rochester, NY, United States
PATENT ASSIGNEE(S): Praxis Biologics, Inc., Rochester, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5785973		19980728
APPLICATION INFO.:	US 1995-481923		19950607 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1993-164989, filed on 9 Dec 1993, now abandoned which is a continuation of Ser. No. US 1992-828711, filed on 31 Jan 1992, now abandoned which is a continuation of Ser. No. US 1989-304783, filed on 31 Jan 1989, now abandoned which is a

continuation-in-part of Ser. No. US 1988-150688, filed on 1 Feb 1988, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Achutamurthy, Ponnathapura
ASSISTANT EXAMINER: Wessendorf, T. D.
LEGAL REPRESENTATIVE: Hamilton, Brook, Smith & Reynolds, P.C.
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 2181
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 31 OF 52 USPATFULL
ACCESSION NUMBER: 1998:68538 USPATFULL
TITLE: DNA molecules which encode the fimbrin protein of Haemophilus influenzae
INVENTOR(S): Kolattukudy, Pappachan E., Columbus, OH, United States
Bakaletz, Lauren O., Columbus, OH, United States
Sirakova, Tatiana, Columbus, OH, United States
PATENT ASSIGNEE(S): The Ohio State Research Foundation, Columbus, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5766608		19980616
APPLICATION INFO.:	US 1995-457997		19950601 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-65442, filed on 18 May 1993, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Sidberry, Hazel F.
LEGAL REPRESENTATIVE: Calfee, Halter & Griswold LLP
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1150
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 32 OF 52 USPATFULL
ACCESSION NUMBER: 1998:51202 USPATFULL
TITLE: Haemophilus influenzae pilus vaccines
INVENTOR(S): Brinton, Jr., Charles C., Export, PA, United States
PATENT ASSIGNEE(S): Bactex, Inc., Pittsburgh, PA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5750116		19980512
APPLICATION INFO.:	US 1995-459823		19950602 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Shaver, Jennifer
LEGAL REPRESENTATIVE: Omri M. Behr, Esq.
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 905
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 33 OF 52 USPATFULL
ACCESSION NUMBER: 1998:27770 USPATFULL
TITLE: Method and composition for an early vaccine to protect against both common infectious diseases and chronic immune mediated disorders or their sequelae
INVENTOR(S): Classen, John Barthelow, Baltimore, MD, United States

PATENT ASSIGNEE(S): Classen Immunotherapies, Inc., Baltimore, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5728385		19980317
APPLICATION INFO.:	US 1993-104529		19930812 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Elliott, George C.
ASSISTANT EXAMINER: Railey, II, Johnny F.
LEGAL REPRESENTATIVE: Cooper, Iver P.
NUMBER OF CLAIMS: 42
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 2984
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 34 OF 52 USPATFULL
ACCESSION NUMBER: 1998:22047 USPATFULL
TITLE: Method and composition for an early vaccine to protect against both common infectious diseases and chronic immune mediated disorders or their sequelae
INVENTOR(S): Classen, John Barthelow, Baltimore, MD, United States
PATENT ASSIGNEE(S): Classen Immunotherapies, Inc., Baltimore, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5723283		19980303
APPLICATION INFO.:	US 1995-450586		19950531 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-104529, filed on 12 Aug 1993
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Degen, Nancy
LEGAL REPRESENTATIVE: Cooper, Iver P.
NUMBER OF CLAIMS: 47
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 3244
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 35 OF 52 USPATFULL
ACCESSION NUMBER: 97:56537 USPATFULL
TITLE: Non-reverting live bacterial vaccines
INVENTOR(S): Stocker, Bruce Arnold D., Portola Valley, CA, United States
PATENT ASSIGNEE(S): The Board of Trustees of the Leland Stanford Junior University, Stanford, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5643771		19970701
APPLICATION INFO.:	US 1994-293407		19940819 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1993-16579, filed on 10 Feb 1993, now abandoned which is a continuation of Ser. No. US 1991-745876, filed on 16 Aug 1991, now patented, Pat. No. US 5210035, issued on 11 May 1993 which is a continuation-in-part of Ser. No. US 1985-798052, filed on 14 Nov 1985, now patented, Pat. No. US 4837151, issued on 6 Jun 1989 which is a continuation-in-part of Ser. No. US 1984-675381, filed on 27 Nov 1984, now patented, Pat. No. US 4735801, issued on 5 Apr 1988 which is a continuation-in-part of Ser. No. US 1982-415291, filed on 7 Sep 1982, now patented, Pat.

No. US 4550081, issued on 29 Oct 1985 which is a continuation-in-part of Ser. No. US 1980-151002, filed on 19 May 1980, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Minnifield, N. M.
LEGAL REPRESENTATIVE: Trecartin, Richard F.Flehr Hohbach Test Albritton & Herbert LLP
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
LINE COUNT: 1871

L10 ANSWER 36 OF 52 USPATFULL
ACCESSION NUMBER: 97:47521 USPATFULL
TITLE: Methods and compositions comprising the agfA gene for detection of **Salmonella**
INVENTOR(S): Doran, James L., Brentwood Bay, Canada
Kay, William W., Victoria, Canada
Collinson, S. Karen, Brentwood Bay, Canada
Clouthier, Sharon C., Naniamo, Canada
PATENT ASSIGNEE(S): University of Victoria Innovation & Development Corp., Victoria, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5635617		19970603	
APPLICATION INFO.:	US 1994-233788		19940426	(8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-54452, filed on 26 Apr 1993, now abandoned			
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Campbell, Eggerton A.			
LEGAL REPRESENTATIVE:	Seed and Berry LLP			
NUMBER OF CLAIMS:	5			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	26 Drawing Figure(s); 22 Drawing Page(s)			
LINE COUNT:	3934			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 37 OF 52 USPATFULL
ACCESSION NUMBER: 97:20384 USPATFULL
TITLE: Virulence-encoding DNA sequences of Strepococcus suis and related products and methods
INVENTOR(S): Smith, Hilda E., Cz Lelystad, Netherlands
Vecht, Uri, As Ermelo, Netherlands
PATENT ASSIGNEE(S): Centraal Diergeneeskundig Instituut, PH Lelystad, Netherlands (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5610011		19970311	
	WO 9216630		19920110	
APPLICATION INFO.:	US 1993-119125		19930920	(8)
	WO 1992-NL54		19920319	
			19930920	PCT 371 date
			19930920	PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	NL 1991-510	19910321

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Campell, Bruce R.
LEGAL REPRESENTATIVE: Handal & Morofsky
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 18 Drawing Figure(s); 13 Drawing Page(s)
LINE COUNT: 2515
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 38 OF 52 USPATFULL
ACCESSION NUMBER: 95:103251 USPATFULL
TITLE: Avirulent microbes and uses therefor
INVENTOR(S): Curtiss, III, Roy, St. Louis, MO, United States
PATENT ASSIGNEE(S): Washington University, St. Louis, MO, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5468485		19951121
APPLICATION INFO.:	US 1993-20259		19930218 (8)

DISCLAIMER DATE: 20110315
RELATED APPLN. INFO.: Continuation of Ser. No. US 1989-332285, filed on 31 Mar 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-200934, filed on 1 Jun 1988, now abandoned which is a continuation-in-part of Ser. No. US 1987-58360, filed on 4 Jun 1987, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Sidberry, Hazel F.
LEGAL REPRESENTATIVE: Rogers, Howell & Haferkamp
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 2597
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 39 OF 52 USPATFULL
ACCESSION NUMBER: 95:45359 USPATFULL
TITLE: Vaccines against diseases caused by enteropathogenic organisms using **antigens** encapsulated within biodegradable-biocompatible microspheres
INVENTOR(S): Reid, Robert H., Kensington, MD, United States
Boedeker, Edgar C., Chevy Chase, MD, United States
van Hamont, John E., Shape, Belgium
Setterstrom, Jean A., Takoma Park, MD, United States
PATENT ASSIGNEE(S): The United States of America as represented by the Secretary of the Army, Washington, DC, United States (U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5417986		19950523
APPLICATION INFO.:	US 1992-867301		19920410 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1991-805721, filed on 21 Nov 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-690485, filed on 24 Apr 1991, now abandoned which is a continuation-in-part of Ser. No. US 1990-521945, filed on 11 May 1990, now abandoned which is a continuation-in-part of Ser. No. US 1990-493597, filed on 15 Mar 1990, now abandoned which is a continuation-in-part of Ser. No. US 1984-590308, filed on 16 Mar 1984
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Henley, III, Raymond J.
ASSISTANT EXAMINER: Criares, T. J.
LEGAL REPRESENTATIVE: Lane, Anthony T., Reichert, Earl T., Bellamy, Werten F. W.
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 71 Drawing Figure(s); 70 Drawing Page(s)

LINE COUNT: 2736
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 40 OF 52 USPATFULL
ACCESSION NUMBER: 95:20436 USPATFULL
TITLE: Cleaning composition containing a type II endoglycosidase
INVENTOR(S): Carpenter, Richard S., Cincinnati, OH, United States
Goldstein, Irwin J., Ann Arbor, MI, United States
Lad, Pushkaraj J., San Mateo, CA, United States
Wolff, Ann M., Cincinnati, OH, United States
PATENT ASSIGNEE(S): The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
Genencor International, Inc., Rochester, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5395541		19950307
APPLICATION INFO.:	US 1993-98083		19930726 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1989-428361, filed on 27 Oct 1989, now patented, Pat. No. US 5238843
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
ASSISTANT EXAMINER: Meller, Mike
LEGAL REPRESENTATIVE: Horn, Margaret A.
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 35 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT: 2534
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 41 OF 52 USPATFULL
ACCESSION NUMBER: 95:13604 USPATFULL
TITLE: Avirulent microbes and uses therefor
INVENTOR(S): Gurtiss, III, Roy, St. Louis, MO, United States
PATENT ASSIGNEE(S): Washington University, St. Louis, MO, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5389368		19950214
APPLICATION INFO.:	US 1992-965607		19921022 (7)

DISCLAIMER DATE: 20110315
RELATED APPLN. INFO.: Continuation of Ser. No. US 1988-200934, filed on 1 Jun 1988, now abandoned which is a continuation-in-part of Ser. No. US 1987-58360, filed on 4 Jun 1987, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Low, Christopher S. F.
LEGAL REPRESENTATIVE: Rogers, Howell & Haferkamp
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 2106
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 42 OF 52 USPATFULL
ACCESSION NUMBER: 94:90961 USPATFULL
TITLE: Antimicrobial composition containing Type II endoglycosidase and antimicrobial agent
INVENTOR(S): Carpenter, Richard S., Cincinnati, OH, United States
Lad, Pushkaraj J., San Mateo, CA, United States
Wolff, Ann M., Cincinnati, OH, United States
PATENT ASSIGNEE(S): Genencor International, Inc., So. San Francisco, CA,

United States (U.S. corporation)
The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5356803		19941018
APPLICATION INFO.:	US 1992-869356		19920330 (7)

DISCLAIMER DATE: 20100824
RELATED APPLN. INFO.: Continuation of Ser. No. US 1989-428362, filed on 27 Oct 1989, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
ASSISTANT EXAMINER: Meller, Michael V.
LEGAL REPRESENTATIVE: Horn, Margaret A.
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 33 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT: 2433
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 43 OF 52 USPATFULL
ACCESSION NUMBER: 94:68583 USPATFULL
TITLE: Haemophilus influenzae pilus vaccines
INVENTOR(S): Brinton, Jr., Charles C., Export, PA, United States
To, Sam C., Pittsburgh, PA, United States
PATENT ASSIGNEE(S): Bactex, Inc., Pittsburgh, PA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5336490		19940809
APPLICATION INFO.:	US 1991-767479		19910930 (7)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1988-207767, filed on 16 Jun 1988, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Wityshyn, Michael G.
ASSISTANT EXAMINER: Mohamed, Abdel A.
LEGAL REPRESENTATIVE: Behr, Omri M., McDonald, Matthew J.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 739

L10 ANSWER 44 OF 52 USPATFULL
ACCESSION NUMBER: 93:91558 USPATFULL
TITLE: Method of removing microorganisms from surfaces with Type II endoglycosidase
INVENTOR(S): Carpenter, Richard S., Cincinnati, OH, United States
Lad, Pushkaraj J., San Mateo, CA, United States
Wolff, Ann M., Cincinnati, OH, United States
PATENT ASSIGNEE(S): Genencor International, Inc., So. San Francisco, CA, United States (U.S. corporation)
P&G, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5258304		19931102
APPLICATION INFO.:	US 1989-428248		19891027 (7)

DISCLAIMER DATE: 20100824
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
LEGAL REPRESENTATIVE: Horn, Margaret A.
NUMBER OF CLAIMS: 9

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 33 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT: 2410
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 45 OF 52 USPATFULL
ACCESSION NUMBER: 93:69772 USPATFULL
TITLE: Method for cleaning a surface on which is bound a glycoside-containing substance
INVENTOR(S): Carpenter, Richard S., Cincinnati, OH, United States
Goldstein, Irwin J., Ann Arbor, MI, United States
Lad, Pushkaraj J., San Mateo, CA, United States
Wolff, Ann M., Cincinnati, OH, United States
PATENT ASSIGNEE(S): Genencor International, Inc., So. San Francisco, CA, United States (U.S. corporation)
The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5238843		19930824	
APPLICATION INFO.:	US 1989-428361		19891027	(7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
ASSISTANT EXAMINER: Meller, Michael V.
LEGAL REPRESENTATIVE: Horn, Margaret A.
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 33 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT: 2485
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 46 OF 52 USPATFULL
ACCESSION NUMBER: 93:37669 USPATFULL
TITLE: Non-reventing live vaccines
INVENTOR(S): Stocker, Bruce A. D., Portola Valley, CA, United States
PATENT ASSIGNEE(S): Board of Trustees of Leland Stanford Jr. University, Palo Alto, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5210035		19930511	
APPLICATION INFO.:	US 1991-745876		19910816	(7)

DISCLAIMER DATE: 20050405
RELATED APPLN. INFO.: Continuation of Ser. No. US 1988-170727, filed on 21 Mar 1988, now patented, Pat. No. US 5077044 which is a continuation-in-part of Ser. No. US 1985-798052, filed on 14 Nov 1985, now patented, Pat. No. US 4837151 which is a continuation-in-part of Ser. No. US 1984-675381, filed on 27 Nov 1984, now patented, Pat. No. US 4735801 which is a continuation-in-part of Ser. No. US 1982-415291, filed on 7 Sep 1982, now patented, Pat. No. US 4550081, issued on 29 Oct 1985 which is a continuation-in-part of Ser. No. US 1980-151002, filed on 19 May 1980, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nucker, Christine M.
ASSISTANT EXAMINER: Stucker, Jeffrey
LEGAL REPRESENTATIVE: Flehr, Hohbach, Test, Albritton & Herbert
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
LINE COUNT: 1708

L10 ANSWER 47 OF 52 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 92:379017 SCISEARCH

THE GENUINE ARTICLE: HZ759
TITLE: USE OF NONRADIOACTIVE DNA HYBRIDIZATION FOR IDENTIFICATION OF ENTEROTOXIGENIC ESCHERICHIA-COLI HARBORING GENES FOR COLONIZATION FACTOR ANTIGEN-I, COLI SURFACE ANTIGEN-4, OR PUTATIVE COLONIZATION FACTOR-O166
AUTHOR: SOMMERFELT H (Reprint); GREWAL H M S; GAASTRA W; SVENNERHOLM A M; BHAN M K
CORPORATE SOURCE: UNIV BERGEN, HAUKELAND HOSP, CTR INT HLTH, N-5021 BERGEN, NORWAY (Reprint); UNIV BERGEN, HAUKELAND HOSP, DEPT MED B, N-5021 BERGEN, NORWAY; UNIV BERGEN, CTR BIOTECHNOL, N-5020 BERGEN, NORWAY; UNIV UTRECHT, FAC VET MED, INST INFECT DIS & IMMUNOL, 3508 TD UTRECHT, NETHERLANDS; GOTHENBURG UNIV, DEPT MED MICROBIOL & IMMUNOL, S-41346 GOTHENBURG, SWEDEN; ALL INDIA INST MED SCI, DEPT PEDIAT, DIV GASTROENTEROL & ENTER INFECT, NEW DELHI 110029, INDIA
COUNTRY OF AUTHOR: NORWAY; NETHERLANDS; SWEDEN; INDIA
SOURCE: JOURNAL OF CLINICAL MICROBIOLOGY, (JUL 1992) Vol. 30, No. 7, pp. 1823-1828.
ISSN: 0095-1137.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; CLIN
LANGUAGE: ENGLISH
REFERENCE COUNT: 43
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L10 ANSWER 48 OF 52 USPATFULL
ACCESSION NUMBER: 91:106096 USPATFULL
TITLE: Novel non-reverting shigella live vaccines
INVENTOR(S): Stocker, Bruce A. D., Portola Valley, CA, United States
PATENT ASSIGNEE(S): The Board of Trustees of the Leland Stanford Jr. University, Palo Alto, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5077044		19911231	
APPLICATION INFO.:	US 1988-170727		19880321	(7)

DISCLAIMER DATE: 20050405
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1985-798052, filed on 14 Nov 1985, now patented, Pat. No. US 4837151 which is a continuation-in-part of Ser. No. US 1984-675381, filed on 27 Nov 1984, now patented, Pat. No. US 4735801 which is a continuation-in-part of Ser. No. US 1982-415291, filed on 7 Sep 1982, now patented, Pat. No. US 4550081, issued on 29 Oct 1985 which is a continuation-in-part of Ser. No. US 1980-151002, filed on 19 May 1980, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nucker, Christine
ASSISTANT EXAMINER: Stucker, Jeffrey
LEGAL REPRESENTATIVE: Rowland, Bertram I.
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 10
LINE COUNT: 1680

L10 ANSWER 49 OF 52 USPATFULL
ACCESSION NUMBER: 89:45490 USPATFULL
TITLE: Live vaccines comprising two mutations and foreign **antigen**
INVENTOR(S): Stocker, Bruce A. D., Portola Valley, CA, United States
PATENT ASSIGNEE(S): The Board of Trustees of the Leland Stanford Junior University, Stanford University, Stanford, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION: US 4837151 19890606
APPLICATION INFO.: US 1985-798052 19851114 (6)
DISCLAIMER DATE: 20050405
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1984-675381, filed on 27 Nov 1984, now patented, Pat. No. US 4735801 which is a continuation-in-part of Ser. No. US 1982-415291, filed on 7 Sep 1982, now patented, Pat. No. US 4550081, issued on 29 Oct 1985 which is a continuation-in-part of Ser. No. US 1980-151002, filed on 19 May 1980, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nucker, Christine M.
LEGAL REPRESENTATIVE: Rowland, Bertram I., Rae-Venter, Barbara
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
LINE COUNT: 1220

L10 ANSWER 50 OF 52 USPATFULL
ACCESSION NUMBER: 88:22682 USPATFULL
TITLE: Bacteroides nodosus vaccine
INVENTOR(S): Stewart, David J., Hawthorn East, Australia
Kortt, Alexander A., Strathmore, Australia
PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research Organization, Australia (non-U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4737363		19880412
APPLICATION INFO.:	US 1985-810152		19851218 (6)

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1984-8700	19841224

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Kight, John
ASSISTANT EXAMINER: Draper, Garnette D.
LEGAL REPRESENTATIVE: Sughrue, Mion, Zinn, Macpeak and Seas
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
LINE COUNT: 633
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 51 OF 52 USPATFULL
ACCESSION NUMBER: 88:20994 USPATFULL
TITLE: Novel non-reverting **salmonella** live vaccines
INVENTOR(S): Stocker, Bruce A. D., Portola Valley, CA, United States
PATENT ASSIGNEE(S): Board of Trustees of Leland Stanford Jr. University, Stanford, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4735801		19880405
APPLICATION INFO.:	US 1984-675381		19841127 (6)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1982-415291, filed on 7 Sep 1982, now patented, Pat. No. US 4550081 which is a continuation-in-part of Ser. No. US 1980-151002, filed on 19 May 1980, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nucker, Christine M.
LEGAL REPRESENTATIVE: Rowland, Bertram I.
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
LINE COUNT: 1079

L10 ANSWER 52 OF 52 USPATFULL

ACCESSION NUMBER:	85:63856 USPATFULL
TITLE:	Non-reverting **salmonella**
INVENTOR(S):	Stocker, Bruce A. D., Portola Valley, CA, United States
PATENT ASSIGNEE(S):	The Board of Trustees of The Leland Stanford Jr. University, Stanford, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4550081		19851029
APPLICATION INFO.:	US 1982-415291		19820907 (6)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1980-151002, filed on 19 May 1980, now abandoned

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Warden, Robert J.
ASSISTANT EXAMINER:	Foulke, Cynthia Lee
LEGAL REPRESENTATIVE:	Rowland, Bertram I.
NUMBER OF CLAIMS:	2
EXEMPLARY CLAIM:	1,2
LINE COUNT:	798

WEST

Freeform Search

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Term:

Display: 10 **Documents in Display Format:** CIT **Starting with Number** 1

Generate: ○ **Hit List** ◉ **Hit Count** ○ **Side by Side** ○ **Image**

Search | Clear | Help | Logout | Interrupt

Main Menu | Show S Numbers | Edit S Numbers | Preferences | Cases

Search History

DATE: Thursday, March 21, 2002 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L5	L4 and fimbrial	7	L5
L4	L3 and antigen	491	L4
L3	L2 and salmonella	1154	L3
L2	L1 and time	16875	L2
L1	cultivation	41747	L1

END OF SEARCH HISTORY

WEST

Generate Collection | Print

Search Results - Record(s) 1 through 7 of 7 returned.

☐ 1. Document ID: US 20010018048 A1

L5: Entry 1 of 7 File: PGPB Aug 30, 2001

PGPUB-DOCUMENT-NUMBER: 20010018048
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010018048 A1

TITLE: NOVEL ADHERENCE FACTORS OF NON PATHOGENIC MICROORGANISMS AND APPLICATIONS THEREOF FOR SCREENING MICROORGANISMS FOR SPECIFIC PROBIOTIC PROPERTIES; NOVEL PHARMACEUTICAL COMPOSITIONS AND FOOD ADDITIVES COMPRISING SUCH MICROORGANISMS AND ADHERENCE FACTORS

PUBLICATION-DATE: August 30, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
LEER, ROBERT JAN	VOORBURG		NL	
POUWELS, PIETER HENDRIK	RIJSWIJK		NL	
CONWAY, PATRICIA LYNNE	LE PEROUSE NSW		AU	

US-CL-CURRENT: 424/93.1; 435/252.3, 530/300, 530/350

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 6316609 B1

L5: Entry 2 of 7 File: USPT Nov 13, 2001

US-PAT-NO: 6316609
DOCUMENT-IDENTIFIER: US 6316609 B1

TITLE: Nucleotide sequence of Escherichia coli pathogenicity islands

DATE-ISSUED: November 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dillon; Patrick J.	Gaithersburg	MD		
Choi; Gil H.	Rockville	MD		
Welch; Rodney A.	Madison	WI		

US-CL-CURRENT: 536/23.1; 435/252.3, 435/252.33, 435/320.1, 435/325, 536/24.3, 536/24.32

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: US 6228983 B1

L5: Entry 3 of 7 File: USPT May 8, 2001

US-PAT-NO: 6228983
DOCUMENT-IDENTIFIER: US 6228983 B1

TITLE: Human respiratory syncytial virus peptides with antifusogenic and antiviral activities

DATE-ISSUED: May 8, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barney; Shawn O'Lin	Cary	NC		
Lambert; Dennis Michael	Cary	NC		
Petteway; Stephen Robert	Cary	NC		

US-CL-CURRENT: 530/300; 424/186.1, 424/211.1, 530/324, 530/325, 530/326

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

---

☐ 4. Document ID: US 6024961 A

L5: Entry 4 of 7 File: USPT Feb 15, 2000

US-PAT-NO: 6024961
DOCUMENT-IDENTIFIER: US 6024961 A

TITLE: Recombinant avirulent immunogenic S typhi having rpos positive phenotype

DATE-ISSUED: February 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Curtiss, III; Roy	St. Louis	MO		
Nickerson; Cheryl A.	Chesterfield	MO		

US-CL-CURRENT: 424/200.1; 424/93.2, 435/252.3, 435/252.8, 435/27, 435/29, 435/4, 435/471

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

---

☐ 5. Document ID: US 6017536 A

L5: Entry 5 of 7 File: USPT Jan 25, 2000

US-PAT-NO: 6017536
DOCUMENT-IDENTIFIER: US 6017536 A

TITLE: Simian immunodeficiency virus peptides with antifusogenic and antiviral activities

DATE-ISSUED: January 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barney; Shawn O'Lin	Cary	NC		
Lambert; Dennis Michael	Cary	NC		
Petteway; Stephen Robert	Cary	NC		
Langlois; Alphonse J.	Durham	NC		

US-CL-CURRENT: 424/188.1; 424/208.1, 530/300, 530/324, 530/325, 530/326

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

---

☐ 6. Document ID: US 5837500 A

L5: Entry 6 of 7 File: USPT Nov 17, 1998

US-PAT-NO: 5837500
DOCUMENT-IDENTIFIER: US 5837500 A

TITLE: Directed evolution of novel binding proteins

DATE-ISSUED: November 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert Charles	Ijamsville	MD		
Gutterman; Sonia Kosow	Belmont	MA		
Roberts; Bruce Lindsay	Milford	MA		
Markland; William	Milford	MA		
Ley; Arthur Charles	Newton	MA		
Kent; Rachel Baribault	Boxborough	MA		

US-CL-CURRENT: 435/69.7; 435/471, 435/91.1, 435/91.2, 530/350, 530/412, 536/23.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

---

☐ 7. Document ID: US 5821066 A

L5: Entry 7 of 7 File: USPT Oct 13, 1998

US-PAT-NO: 5821066
DOCUMENT-IDENTIFIER: US 5821066 A

TITLE: Simple, rapid method for the detection, identification and enumeration of specific viable microorganisms

DATE-ISSUED: October 13, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pyle; Barry H.	Belgrade	MT		
McFeters; Gordon A.	Bozeman	MT		

US-CL-CURRENT: 435/7.2; 435/174, 435/176, 435/177, 435/180, 435/29, 435/30, 435/34, 436/518, 436/525

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

Generate Collection | Print

Terms	Documents
L4 and fimbrial	7

Display Format: - Change Format

Previous Page Next Page

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L20	L19 and rapid	72	L20
L19	L17 and phase	116	L19
L18	L17 and antobodies	0	L18
L17	L16 and detection	143	L17
L16	L15 and growth	240	L16
L15	L14 and fimbrial or fimbriae	387	L15
L14	L13 and salmonella	560	L14
L13	L12 and antigen	3482	L13
L12	L11 same time	9583	L12
L11	culture adj medium	55065	L11
L10	culture medium	1403712	L10
L9	L8 and fimbrial	6	L9
L8	L7 and time	432	L8
L7	L6 and incubation	432	L7
L6	l4 and medium	489	L6
L5	L4 and fimbrial	7	L5
L4	L3 and antigen	491	L4
L3	L2 and salmonella	1154	L3
L2	L1 and time	16875	L2
L1	cultivation	41747	L1

END OF SEARCH HISTORY

WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Terms	Documents
L19 and rapid	72

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L20

Refine Search

Recall Text | Clear

Search History

DATE: Thursday, March 21, 2002 Printable Copy Create Case

L20: Entry 49 of 72 File: USPT Jun 3, 1997

US-PAT-NO: 5635617
DOCUMENT-IDENTIFIER: US 5635617 A

TITLE: Methods and compositions comprising the agfA gene for detection of Salmonella

DATE-ISSUED: June 3, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Doran; James L.	Brentwood Bay			CAX
Kay; William W.	Victoria			CAX
Collinson; S. Karen	Brentwood Bay			CAX
Clouthier; Sharon C.	Naniamo			CAX

US-CL-CURRENT: 536/23.7; 536/23.1

CLAIMS:

We claim:

1. An isolated nucleic acid molecule comprising an isolated agfA gene Sequence I.D. No. 56 or Sequence I.D. No. 58.

2. The isolated nucleic acid molecule of claim 1 wherein said isolated nucleic acid molecule is a recombinant molecule.

3. A vector construct comprising an agfA gene Sequence I.D. No. 56 or Sequence I.D. No. 58.

4. The vector construct of claim 3 wherein said vector construct is an expression vector.

5. The vector construct of claim 3 wherein said vector construct is an expression vector able to express said gene upon introduction to a cell of a living plant or animal.

WEST

End of Result Set

Generate Collection Print

L5: Entry 7 of 7 File: USPT Oct 13, 1998

DOCUMENT-IDENTIFIER: US 5821066 A
TITLE: Simple, rapid method for the detection, identification and enumeration of specific viable microorganisms

Brief Summary Paragraph Right (8):
The second class of assays is used for viable cell determinations either directly using the primary sample, or using a subculture of the primary sample. The most traditional and widely used method is the plate count, which allows determination of single cell viability, based on growth, under many test conditions (see, for example, Hattori The Viable Count: Quantitative and Environmental Aspects, Brock/Springer, Madison, 1988). An important attribute of viable plate enumeration is that the time required to obtain a determination is independent of the concentration of the cell in the sample, as formation of each colony proceeds from an initial single cell. The major disadvantage is its slowness, as typical determinations require one-half to several days, and are also labor- and materials-intensive.

Brief Summary Paragraph Right (10):
The gels are provided with nutrients, such that following an incubation period at a suitable temperature, many generations of growth occur, which leads to formation of visible colonies. For many microorganisms formation of visible colonies requires growth for 22 to 30 generations and therefore produces colonies containing 10.sup.7 to 10.sup.9 cells. (See Sharpe, in Mechanizing Microbiology, A. N. Sharpe and D. S. Clark (Eds.) Charles C. Thomas, Springfield, 19-40, 1978). Although conventional viable plating leads to formation of colonies, and thereby provides a basis for counting viable cells by counting colonies, the presence or absence of colonies only allows an inference that the conditions present in the gel do or do not support growth. For this reason, conventional viable plating is not well suited to quantitative determinations such as cell growth rate and lag time, because viable plating based on visual inspection counts the number of colonies formed, but does not determine how the cellular material or amount of cellular constituents in the colonies varies with time.

Brief Summary Paragraph Right (11):
An additional complication arises because the nutrient and metabolite concentrations within a colony comprise a microenvironment, which generally changes with time in a variable way as microcolonies increase to form larger colonies with many cells in close proximity. The microenvironment within a large colony can also have significant heterogeneity of chemical composition within the microcolony, so that different cells within a large colony experience different growth conditions. Further, although some methods are based on a straightforward extension and application of scanning optical methods for determination of optical properties of colonies on or in gel slabs, such methods suffer from relatively large cost, and, because of the relatively large gel slab size, does not allow incubation conditions to be changed rapidly at the site of the cells within the gel. (See Glaser in New Approaches to the Identification of Microorganisms Proceedings of a Symposium on Rapid Methods and Automation in Microbiology, C. G. Heden and T. Illeni (Eds.), Wiley, N.Y., 3-12, 1975).

Brief Summary Paragraph Right (14):
A disadvantage of all such metabolic activity methods is that they are based on

combined effects of a large number of cells, and therefore generally require an initial process, based on plating, to obtain initial colonies for purposes of inoculation of the analyzed sample, such that the determinations based on many cells at least are based on a monopopulation, i.e. a population comprised nominally of the same type of cells. For this reason, although a total population cell determination may itself be rapid, it is generally preceded by a viable plating method, or its equivalent, which is slow. Thus, the total analysis time, counted from receipt of a primary or non-plated sample to a cell growth determination, is the sum of both, and therefore still long.

Brief Summary Paragraph Right (16):
Finally, because these total population methods are based on the combined effects of many cells, the time required for a determination becomes significantly longer as the number of cells decreases, i.e. as the sample's cell concentration decreases.

Brief Summary Paragraph Right (18):
Likewise, quantitative microscopy and image analysis combined with conventional gel preparations, such as gel slabs, petri dishes and the like, although capable of determining colony formation, is tedious, and in manual versions, conventional gel slabs, petri dishes and the like, cannot provide physical manipulability or a sufficiently fast (small) characteristic diffusion time within the gel, so that cells cannot be rapidly and conveniently exposed to different growth conditions, such as rapid changes in concentrations of nutrients, drugs, hormones, enzymes, antibodies and other chemicals. In addition, conventional gel slabs, petri dishes and the like cannot be readily manipulated physically because of their size, and therefore cannot be readily used for exposure of gel-entrapped cells to in vivo conditions.

Brief Summary Paragraph Right (20):
Wolf et al., U.S. Pat. No. 4,972,258 discloses a scanning laser microscope system and methods of use. The patent discloses a yeast culture was placed on a black polycarbonate filter. The filter was then overlaid with a fluorescent stain. The filter was rinsed in a succession of steps and then the filter was air dried and placed on top of a glass microscope slide. The fluorescent stain is an indicator of viability and direct staining of microorganisms may be used for detection and enumeration and analysis of the microorganisms. The patent also discloses an indirect immunofluorescence assay in which a target microorganism is labelled with a primary non-conjugated antibody specific for microorganisms containing a target surface antigen. The microorganisms with bound antibody are fluorescently labelled using a fluorescein isothiocyanate conjugated secondary antibody which recognizes the primary antibody. Then the labelled microorganisms are placed on an appropriate surface and imaged using a scanning laser microscope. A filter is used which reflects the laser light and passes the fluorescence light. Wolf et al. does not disclose using 5-cyano-2,3-ditolyl tetrazolium chloride (CTC) to detect respiring bacteria.

Brief Summary Paragraph Right (30):
However, prior art methods take a long time to conduct and do not simultaneously detect, identify and enumerate individual respiration of bacteria. The present method can be used to monitor the performance of water reclamation and storage systems. The present method may also be useful in tracing disease outbreaks, and in other public health situations such as water and wastewater treatment, storage and distribution. The method of the invention may also be used for routinely monitoring foods for quality control or grading purposes.

Brief Summary Paragraph Right (32):
An advantage of the method of the present invention is that it is relatively rapid and minimizes actual labor input to about 1-2 hours with a total assay time of 3 to 6 hours. The procedure is amenable to automated examination using video image analysis technology.

Detailed Description Paragraph Right (15):
Microcolony formation has previously been combined with immunofluorescence for the detection of viable Listeria (Sheridan, J.J., I. Walls, J. McLaughlin, D. McDowell & R. Welch. 1991. Use of a microcolony technique combined with an indirect

immunofluorescence test for the rapid detection of Listeria in raw meat. Lett. Appl. Microbiol. 13:140-144) and Salmonella (Roderigues, U.M. & R.G. Kroll. 1990. Rapid detection of salmonellas in raw meats using a fluorescent antibody-microcolony technique. J. Appl. Bacteriol. 68:213-223). The direct viable count method has also been successfully combined with immunofluorescence for the detection of viable Vibrio cholerae (Brayton, P.R. & R.R. Colwell. 1987. Fluorescent antibody staining method for enumeration of viable environmental Vibrio cholerae 01. J. Microbiol. Meth. 6:309-314), and Escherichia coli and Salmonella enteritidis (Roszak, D.B. & R.R. Colwell. 1987. Metabolic activity of bacterial cells enumerated by direct viable count. Appl. Environ. Microbiol. 53:2889-2983).

Detailed Description Paragraph Right (18):
Research on microscopic methods for the detection of bacteria in spacecraft water systems has led us to develop a method in which the CTC incubation is combined with a fluorescent antibody test (FIG. 1). The method has been performed successfully with, for example, E. coli 0157:H7 and Salmonella typhimurium. The method can be performed with any microorganism which can take up and metabolize CTC by respiratory cytochrome activity.

Detailed Description Paragraph Right (28):
An advantage of the present method is that it is relatively rapid and minimizes actual labor input to about 1 to 2 hours with a total assay time of 3 to 6 hours. Several samples can be processed at the same time. The procedure is amenable to automated examination using video image analysis technology. The method provides for the rapid detection, identification and enumeration of respiring bacteria.

Detailed Description Paragraph Right (30):
Incubation for CTC reduction, cell elongation or microcolony formation was performed, followed by fluorescent antibody (FAb) reaction or nucleic acid hybridization directly on polycarbonate filter membranes. Both fluorescent antibody techniques (Cochran-Stafira, D.L. & M.J. Starzyk. Membrane-filter fluorescent antibody technique for the detection and enumeration of the genus Thermus in water. Microbios 60:159-165; Desmonts, C., J. Minet, R. Colwell & M. Cormier. 1990. Fluorescent-antibody method useful for detecting viable but nonculturable Salmonella spp. in chlorinated wastewater. Appl. Environ. Microbiol. 56:1448-1452 and oligonucleotide probe methods (Heidelberg, J.F., K.R. O'Niel, D. Jacobs & R.R. Colwell. 1993. Enumeration of Vibrio vulnificus on membrane filters with a fluorescently labeled oligonucleotide probe specific for kingdom-level 16S rRNA sequences. Appl. Environ. Microbiol. 59:3464-3476) have been performed directly on filter membranes.

Detailed Description Paragraph Right (37):
Immunological separation of bacteria from food samples using specific antibodies coated on a variety of surfaces has led to the use of magnetizable particles (Blackburn, C. de W. 1993 Rapid and alternative methods for the detection of salmonellas in foods. Journal of Applied Bacteriology 75:199-214). IMS techniques utilize small particles or beads coated with antibodies against surface antigens of specific bacteria (Olsvik, O., T. Popvic, E. Skjerve, K.S. Cudjoe, E. Hornes, J. Ugelstad, and M. Uhlen. 1994 Magnetic separation techniques in diagnostic microbiology. Clinical Microbiology Reviews 7:43-54). The super-paramagnetic beads become magnetic when in a magnetic field but become nonmagnetic as soon as the field is removed. Thus, the particles remain in suspension when they are not in a magnetic field, and can be readily concentrated by applying a magnetic field. Isolation of specific bacteria bound to beads has usually been accomplished by cultivation of captured cells in broth or on solid media. Bacteria bound to magnetic beads remain viable when provided with adequate nutrients.

Detailed Description Paragraph Right (38):
IMS has been used to isolate a variety of bacteria including E. coli K88 (Lund, A., A.L. Hellemann, and F. Vartdal. 1988 Rapid isolation of K88.sup.+ Escherichia coli by using immunomagnetic particles. Journal of Clinical Microbiology 26:2572-2575), Salmonella spp. (Blackburn and Patel, 1989; Skjerve and Olsvik, 1991), Listeria monocytogenes (Skjerbe et al., 1990), and Vibrio parahaemolyticus serotype K (Tomoyasu, T. 1992 Development of the immunomagnetic enrichment method selective for Vibrio parahaemolyticus serotype K and its application to food poisoning study.

Applied and Environmental Microbiology 58:2679-2682). Shigella dysenteriae and S. flexneri in feces were detected by immunomagnetic assay with monoclonal antibodies (Islam, D., S. Tzipori, M. Islam, and A.A. Lindberg. 1993 Rapid detection of Shigella dysenteriae and Shigella flexneri in feces by an immunomagnetic assay with monoclonal antibodies. European Journal of Clinical Microbiology and Infectious Diseases 12:25-32). Okrend et al. (Okrend, A.J.G., B.E. Rose, and C.P. Lattuada. 1992 Isolation of Escherichia coli 0157:H7 using 0157 specific antibody coated magnetic beads. Journal of Food Protection 55:214-217) found that E. coli 0157:H7 could be sensitively and specifically concentrated from ground beef by using magnetic beads coated with 0157 antibody. The cells were subsequently cultivated in a nonselective growth medium. E. coli 0157:H7 strains have also been extracted from enrichment broths (Fratamico, P.M., F.J. Schultz, and R.L. Buchanan. 1992 Rapid isolation of Escherichia coli 0157:H7 from enrichment cultures of foods using an immunomagnetic separation method. Food Microbiology 9:105-113). The number of E. coli 0157 recovered was related to the number of E. coli 0157 in the sample. The sensitivity of recovery of E. coli 0157:H7 was 10 CFU/ml in the enrichment medium. It was demonstrated that E. coli 0157:H7 cells attached to the beads could be visualized by incubation with FITC labeled polyclonal antiserum against E. coli 0157:H7 for 30 min followed by epifluorescent microscopic examination. Magnetic beads may be obtained commercially (e.g. Dynal, New York), and these may be supplied coated with the E. coli 0157 antibody.

Detailed Description Paragraph Right (39):
Essentially, E. coli 0157:H7 bacteria in hamburger meat can be concentrated by immunomagnetic capture, as has been done with salmonellae (Vermunt, A.E.M., A.A.J.M. Franken, and R.R. Beumer. 1992 Isolation of salmonellas by immunomagnetic separation. Journal of Applied Bacteriology 72:112-118). After separation of the beads (with bacteria attached) from the meat suspension, the bead/cell particles are trapped on a filter membrane. The membrane is incubated for a few hours with a tetrazolium compound which, when taken up into respiring cells is reduced to a fluorescent formazan crystal. Reaction of the cells with a contrasting fluorescent antibody permits the E. coli cells to be specifically labelled by the fluorescent dye. Subsequent direct microscopic observation and enumeration of the sample on the membrane filter permits discrimination of cells which were both metabolically active and of the specific 0157:H7 antigenic type.

Detailed Description Paragraph Right (42):
The immunomagnetic capture step permits not only cell concentration, but also the selection of a specific antigenic cell type. Use of the E. coli 0157 antigen concentrates bacteria that are likely to produce illness while eliminating other bacterial species from the bead concentrate.

Detailed Description Paragraph Right (44):
Reaction with a second fluorescently labelled antibody provides confirmation that the bacteria selected were indeed the target pathogen. For example, E. coli 0157 antibodies different from the primary capture 0157 antibody, e.g. from another manufacturer, will confirm the presence of E. coli 0157. Alternatively, a different antigen can be used for the confirmation, such as the H7 flagellar antigen or a fimbrial antigen. A similar approach can be taken when a pathogen other than E. coli 0157 is the target organism.

Detailed Description Paragraph Right (45):
Epifluorescence microscopic examination allows the enumeration of individual viable cells of E. coli 0157, in contrast to cultivation and enrichment techniques in which each colony may be formed by more than one cell.

Detailed Description Paragraph Right (46):
The time required to complete the immunomagnetic concentration, viability incubation, fluorescent antibody reaction and microscopic examination is approximately 4-6 h. The procedure can be automated at several steps, reducing the time required to as little as three hours. These time requirements reflect a truly rapid method, allowing meat samples to be briefly withheld until results of the test become available.

Detailed Description Paragraph Right (50):

Variations of the technique include the use of alternative, and possibly multiple, confirmatory fluorescent antibodies. Alternatives include antibodies for the E. coli H7 flagellar antigen, or a fimbrial antigen (Levine, M.M. 1987 Escherichia coli that cause diarrhea: enterotoxigenic, enteropathogenic, enteroinvasive, enterohemorrhagic, and enteroadherent. Journal of Infectious Diseases 155:377-39).

Detailed Description Paragraph Right (51):
Different homogenization buffers can be used to obtain optimal immunomagnetic recovery of bacteria. Other than physiological saline containing protamine (Okrend, A.J.G., B.E. Rose, and C.P. Lattuada. 1992 Isolation of Escherichia coli 0157:H7 using 0157 specific antibody coated magnetic beads. Journal of Food Protection 55:214-217), plain physiological saline without Protamine may be used. Other possibilities include phosphate buffered saline (Doyle, M.P. and J.L. Schoeni. 1987 Isolation of Escherichia coli 0157:H7 from retail fresh meat and poultry. Applied and Environmental Microbiology 53:2394-2396 and Lund, A., A.L. Hellemann, and F. Vartdal. 1988 Rapid isolation of K88.sup.+ Escherichia coli by using immunomagnetic particles. Journal of Clinical Microbiology 26:2572-2575) with and without Protamine, and phosphate-buffered peptone water with 0.05% Tween 20 (Skjerve, E., and O. Olsvik. 1991 Immunomagnetic separation of Salmonella from foods. International Journal of Food Microbiology 14:11-18) or with 5 mg/ml protamine substituted for the Tween 20.

Detailed Description Paragraph Right (52):
The attachment procedure may be varied. One minute vortexing and 10 min stationary incubation followed by vortexing (Okrend, A.J.G., B.E. Rose, and C.P. Lattuada. 1992 Isolation of Escherichia coli 0157:H7 using 0157 specific antibody coated magnetic beads. Journal of Food Protection 55:214-217) may be used. Room temperature incubation with shaking for 10 min (Vermunt, A.E.M., A.A.J.M. Franken, and R.R. Beumer. 1992 Isolation of salmonellas by immunomagnetic separation. Journal of Applied Bacteriology 72:112-118) or with rotation for 15 or 60 min (Fratamico, P.M., F.J. Schultz, and R.L. Buchanan. 1992 Rapid isolation of Escherichia coli 0157:H7 from enrichment cultures of foods using an immunomagnetic separation method. Food Microbiology 9:105-113) may also be used.

Detailed Description Paragraph Right (57):
Incubation with CTC to detect respiratis activity is compatible with immunomagnetic capture and subsequent fluorescent antibody confirmation. The proposed method does not involve a cultivation step, and it is expected that there will be a reasonable correlation with conventional culture methods. Optimization of the procedures should enable detection of very low numbers of target bacteria in ground beef.

Detailed Description Paragraph Right (59):
The specificity of E. coli 0157:H7 antigens is debated. The advantage of the present method is that two antigens can be used, one for the initial capture of the target bacteria on the immunomagnetic beads, and the other for confirmation after the incubation for respiratory activity. Thus, if a broad-spectrum antibody which may cross-react with some other species is used as the immunomagnetic bead antibody, this would help to optimize detection. A more specific fluorescent antibody can then be used for confirmation.

Detailed Description Paragraph Right (76):
It is preferred that the magnetic beads used in the above method be Dynabeads.RTM.. Dynabeads.RTM. are uniform, superparamagnetic microspheres (2.8 microns in diameter) with affinity purified antibodies on their surface. When incubated with a sample, Dynabeads.RTM. will bind their target bacterium forming a bacterium:magnetic bead complex. This complex is separated from the heterogenous sample by placing the sample tube in a magnetic holder (Dynal MPC.RTM.). For example, Microbiology Selective Enrichment Products Dynabeads.RTM., anti-E.coli 0157 Dynabeads.RTM., anti-Salmonella, are designed for rapid, immunomagnetic selective enrichment of microorganisms directly from pre-enrichment broths.

Detailed Description Paragraph Right (77):
The beads are rapid and simple to use, the protocol saves 24 hours of valuable testing time compared to conventional selective enrichment media. The beads have high sensitivity and will detect as low as 100 organisms/ml of pre-enriched sample.

The beads allow for complete detection of over 200 serotypes of Salmonella and both motile and non-motile strains of E.coli 0157. An antibody coating of different specificity could be used to capture other specific target bacteria. The beads are also efficient providing concentration and purification of the sample by immunomagnetic separation (IMS) improves bacterial isolations.

Detailed Description Paragraph Right (78):
The beads are versatile and can be used for many different sample types. For example, the beads are convenient in that hand-held instrumentation provides convenience and ease of use. Only a magnet (Dynal MPC.RTM.) is required for separation of the beads. Magnetic beads are flexible and can be conveniently combined with existing manual and automated detection methods (ELISA, PCR, and Impedance) for greater testing efficiency. The isolated and concentrated bacterium:bead complex can then be cultured on any selective culture medium or used in other detection systems. Dynabeadso.RTM. anti-E. coli 0157 are coated with affinity purified polyclonal anti-E. coli 0157 antibodies. Dynabeads.RTM. anti-Salmonella are coated with affinity purified polyclonal and monoclonal anti-Salmonella antibodies. Beads can be coated with other antibodies by the suppliers or in the testing laboratory.

Detailed Description Paragraph Right (80):
Representative suitable means for measuring biological material, using naturally occurring properties of biological entities, or using stains, includes physical means such as optical, weighing, sedimentation, field flow sedimentation fractionation, acoustic, magnetic, electrical and thermal means. It is preferred to use optical measurements wherein biological material volumes are measured using optical phenomenon such as light scattering, light absorbance or calorimetric, fluorescence, time-delayed fluorescence, phosphorescence and chemiluminescence.

Detailed Description Paragraph Right (87):
The magnitude of the optical signal due to the cell stain in each bacterium, or small group of bacteria, is compared to the fluorescence of individual cells, thereby providing a calibration. Comparison of the bacterial signal magnitude to that of individual cells provides the basis for determination of growth of individual cells, for which the growth determination can often be made within about one generation time, but without a need for significant prior culture to obtain large numbers of cells, and growth can also be determined over several generations, if desired.

Detailed Description Paragraph Right (88):
By making a large number of such individual cell growth determinations, the distribution of growth rate, distribution of lag time, and the plating efficiency caused by the exposure to one or more compounds or agents can be automatically determined by computer calculation. Other measurements relating to cell survival and cell death, particularly vital stains such as transmembrane potential stains, membrane exclusion stains and intracellular enzyme activity responsive stains, can also be used. Manual or visual inspection and scoring of bacteria can also be used, but is relatively labor intensive and therefore more prone to error. Thus, the preferred process is that conducted using the automated measurement means.

Detailed Description Paragraph Right (89):
This invention can be used to provide measurement of certain types of biological entities or bacteria, herein referred to as analyte entities, capable of reacting with and binding two or more labeled specific binding molecules, wherein the labeled specific binding molecules are measured directly by measuring one or more labels which have been attached to the individual labeled specific binding molecules, or are measured indirectly through the subsequent binding of additional, labeling molecules which can bind to, and thereby label, the labeled specific binding molecule. Examples of suitable specific binding molecules are antibodies, antigens, nucleic acids, avidin-biotin, enzyme inhibitors and lectins. A key property of analyte entities is that the analyte entities preferably have two or more specific binding sites which can bind labeled specific binding molecules.

Detailed Description Paragraph Right (93):
Prior to the carrying out of the process of this invention, two or more labeled

specific binding molecules are obtained, using means well known in the art, such that two or more labeled specific binding molecules are prepared, which are capable of binding to two or more binding sites on the analyte. Antibodies which bind to at least two non-overlapping epitopes on the analyte, such that at least two antibodies can be simultaneously and specifically bound to the analyte. Examples of such labeled specific binding molecules include (a) monoclonal antibodies with about one label molecule bound to each antibody molecule, (b) antigen molecules with about one label molecule bound to each antigen entity, (c) monoclonal antibodies with about two label molecules of the same type are bound to each antibody molecule, (d) antigen molecules with about two label molecules of the same type bound to each antigen entity, and (e) polyclonal antibodies containing at least two antibodies capable of binding to at least two non-overlapping epitopes of the analyte entity.

Detailed Description Paragraph Right (94):
Analyte entities with at least two non-overlapping and non-competing specific binding sites can be measured. The important general class of analyte entities for bacteria include labeled antibodies, antigenic analyte entities capable of independently binding antibodies at two or more different sites can be measured. Examples of such analyte entities with two such sites include all antigens capable of assay by a sandwich assay.

CLAIMS:

17. The assay according to claim 1, wherein said rapid assay is performed in a time range of 3-6 hours.

18. The assay according to claim 4, wherein said rapid assay is performed in a time range of 3-6 hours.

19. The assay according to claim 10, wherein said rapid assay is performed in a time range of 3-6 hours.